

## **REMARKS**

Applicants note that all amendments of Claims presented herein are made without acquiescing to any of the Examiner's arguments or rejections, and solely for the purpose of expediting the patent application process in a manner consistent with the PTO's Patent Business Goals (PBG),<sup>1</sup> and without waiving the right to prosecute the amended Claims (or similar Claims) in the future.

In the Office Action dated 10/4/07, the Examiner issued two rejections. Each of the rejections is discussed in detail below.

### **I. The Claims are Supported by a Proper Written Description**

The Examiner rejects claims 4, 10, and 17 under 35 U.S.C. 112, first paragraph as allegedly lacking written description (Office Action, pg. 2). The Applicants respectfully disagree with the rejection. Nonetheless, in order to further the Applicants business interests, and without acquiescing to any of the Examiner's arguments or rejections, and reserving the right to prosecute the original (or similar) claims in the future, the Applicants have cancelled claims 4 and 10 and added new claims 18-25. The new claims recite an siRNA targeting a mammalian Kv3.4 mRNA. The Applicants have further amended the claims to encompass the targeting of a Kv3.4 in a fast spiking neuronal cell comprising a complex of Kv3.4, Kv3.1, Kv3.2 and Kv3.3, and that inhibiting the expression of Kv3.4 mRNA decreases the fast spiking behavior of the cell. The Applicants submit that the specification provides written description for the presently claimed invention. In particular, the specification, at pages 28-29, teaches that Kv3.4 is specifically found in fast spiking neuronal cells in a complex with Kv3.1, Kv3.2 and Kv3.3. Further, Example 6 of the specification at page 66 provides multiple working examples of siRNAs targeting mammalian Kv3.4 and reducing expression of Kv3.4. The Applicants further note that the Patent Office (page 7 of the present office action) has taken the position that "one would have a reasonable expectation of success at targeting a Raw3 gene given Rettig et al. teach the cDNA to said gene and Tuschl et al. teach the basic blue print of making and using siRNA to silence gene expression from any target gen or interest." It appears that the Office has

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<sup>1</sup> 65 Fed. Reg. 54603 (Sept. 8, 2000).

taken the position that the state of the art of siRNA inhibition is such that knowing a target sequence is sufficient for carrying out siRNA inhibition. Applicants note that the Kv3.4 sequences of many mammalian species were known at the time of filing. Thus, based on the Office's position, and in view of the claim amendments, the rejection should be withdrawn. Applicants further note that new claims 24 and 25 recite rat and human Kv3.4. Both sequences were known.

## **II. The Claims are Non-Obvious**

The Examiner rejects Claims 4 and 10 under 35 U.S.C. 103 as allegedly being obvious in light of Rettig et al. (EMBO 11: 2473 (1992); hereinafter Rettig) in view of Low et al (U.S. Patent 6,071,891; hereinafter Low) and Tuschl et al (WO 02/44321; hereinafter Tuschl), as evidenced by Weiser et al. (J. Neuroscience, 15:4298 (1995); hereinafter Weiser). The Applicants respectfully disagree with the rejection. In particular, the cited references, alone or in combination, do not teach all of the elements of the presently claimed invention as required for rejection under 35 U.S.C. 103. In particular, none of the cited references teach an siRNA that targets a mammalian Kv3.4a that is in a fast spiking neuronal cell in a complex with mammalian Kv3.1, Kv3.2 or Kv3.3. Furthermore, none of the cited references, alone or in combination teach a method wherein inhibition of Kv3.4a expression results in a decrease in the fast spiking behavior of a neuronal cell, nor is this predictable from the cited art. Indeed, the present specification states "Moreover, the Kv3.4 subunit was surprisingly and unexpectedly discovered to be expressed in FS neurons, but not in non-FS neurons." Specification, pg. 29, lines 7-8. As such, the Applicants submit that the Examiner has not demonstrated a prima facie case of obviousness and respectfully request that the rejection be withdrawn.

**CONCLUSION**

All grounds of rejection and objection of the Final Office Action of October 4, 2007 having been addressed, reconsideration of the application is respectfully requested. It is respectfully submitted that the invention as claimed fully meets all requirements and that the claims are worthy of allowance. Should the Examiner believe that a telephone interview would aid in the prosecution of this application, Applicant encourages the Examiner to call the undersigned collect at (608) 218-6900.

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